

Remarks/Arguments

Amendments to the claims:

The claims have been amended to remove improper multiple dependencies as raised in the Examiner's Objection. Claim 1 has been amended to include the claim element of reaction at the carbon nanotube sidewall carbon atoms. Support for this amendment can be found in the specification at paragraph [0011] of the published application: "The method allows the chemical attachment of a variety of organic compounds to the sidewalls and ends of the carbon nanotubes."

All other amendments to the claims were to remedy grammatical/spelling errors. No new matter has been introduced by way of these amendments.

I. Restriction requirement

Applicants confirm selection of group I, claims 1-25 without traverse as conveyed by telephone conversation with the Examiner on 11/01/2007. Office Action at items 1-3.

II. Double patenting

a) Claims 1-2, 4-6, 11, and 14-20 stand rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 3-7, 14-16, 18-19 and 29 of U.S. Patent No. 7,250,147. Office Action at item 6. Applicants submit along with this response an appropriate terminal disclaimer.

b) Claims 1-2, 4-5, and 14 stand rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 97-98 of U.S. Patent No. 7,304,103. Office Action at item 7. Applicants submit along with this response an appropriate terminal disclaimer.

c) Claims 1, 4-5, and 14 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 69-71 and 132 of co-

pending Application No. 10/632,948, hereinafter the '948 application. Office Action at item 8.

Applicant respectfully traverses this rejection. Applicant notes that, if the “provisional” double patenting rejection is the only rejection remaining in the Application, then the Examiner should withdraw the rejection and permit the Application to issue as a patent. M.P.E.P. §804.

Applicant notes that the '948 application has been allowed, but not yet issued. Therefore applicant reserves the right to file an appropriate terminal disclaimer at such a time that the '948 application actually issues as a patent.

d) Claims 1-5, and 11-20, and 25 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-2, 4-5, 7-10, 15-16, 20, 24, and 28 of co-pending Application No. 10/593,918. Office Action at item 9.

Applicant respectfully traverses this rejection. Applicant notes that, if the “provisional” double patenting rejection is the only rejection remaining in the Application, then the Examiner should withdraw the rejection and permit the Application to issue as a patent. M.P.E.P. §804.

e) Claims 1-2, 4-5, 11 and 14 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 and 3-5 of co-pending Application No. 10/561,712. Office Action at item 10.

Applicant respectfully traverses this rejection. Applicant notes that, if the “provisional” double patenting rejection is the only rejection remaining in the Application, then the Examiner should withdraw the rejection and permit the Application to issue as a patent. M.P.E.P. §804.

f) Claims 1-2, 4-5, and 14 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-3 7-9 and 18-19 of co-pending Application No. 11/762,522. Office Action at item 11.

Applicant respectfully traverses this rejection. Applicant notes that, if the “provisional” double patenting rejection is the only rejection remaining in the Application, then the Examiner should withdraw the rejection and permit the Application to issue as a patent. M.P.E.P. §804.

III. Claim Objections

Claims 8-25 are objected to for improper multiple dependencies. Office Action at item 12. Claim amendments have been made to remove the improper multiple dependencies. Applicant respectfully requests withdrawal of this objection.

IV. Claim Rejections under 35 U.S.C. §102

a) Claims 1-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by Bahr et al., "Functionalization of carbon nanotubes by electrochemical reduction of aryl diazonium salts: A bucky paper electrode," J. Am. Chem. Soc. 2001, 123, 6536-6542. Office Action at item 15. This rejection is respectfully traversed.

Regarding rejections under 35 U.S.C. 102(b), anticipation requires each element of a claim to be present in the cited art either explicitly or inherently.

As pointed out by the Examiner the reaction reported in Bahr et al. is conducted in the presence of a solvent, acetonitrile. In the present application, claim 1 recites the functionalization of carbon nanotubes in the absence of a solvent. Because Bahr et al. does not teach the absence of a solvent, neither explicitly nor inherently, claim 1 is patentable over Bahr et al. Claims 2-6 depend from claim 1 and are therefore patentable for at least the same reasons. Withdrawal of this rejection is respectfully requested.

b) Claims 1-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by Tanaka et al., "Solvent-free Organic Synthesis," Chem. Rev. 2000, 100, 1025-1074. Office Action at item 16. This rejection is respectfully traversed.

Tanaka et al. disclose reaction of C60 fullerenes in the solid state, as correctly pointed out by the Examiner. Tanaka is silent however, regarding the functionalization carbon nanotubes. More importantly, Tanaka is silent regarding the functionalization of carbon nanotubes at the sidewalls. It has been established that the reactivity of carbon nanotubes at sidewalls resembles the reactivity of carbons in the basal plane of graphite (see paragraph [0008]

in the published application). Thus, analogy with the reactivity of C60 is not appropriate with respect to nanotube sidewall functionalization. Because Tanaka does not disclose all the claim elements present in independent claim 1, neither selecting nanotubes, nor reaction of the nanotubes on the sidewalls, claim 1 is patentable over Tanaka et al. Claims 2-6 depend directly from claim 1 and are therefore patentable for at least the same reasons. Claim 7 has been cancelled rendering its rejection moot. Withdrawal of this rejection is respectfully requested.

c) Claims 1-2, and 4-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by Haddon et al., U.S. Patent No. 6,187,823. Office Action at item 17. This rejection is respectfully traversed.

Haddon discloses ionic salt formation at the ends of open end SWNTs as pointed out by the Examiner. This is achieved by acid-base reaction of the carboxylic acid groups displayed on the tube ends with an amine. Claim 1, however, recites reaction of carbon nanotubes at sidewall carbon atoms. Haddon fails to disclose reaction at the sidewall carbon atoms explicitly or inherently, and thus, claim 1 is not anticipated by Haddon. Claims 2 and 4-6 depend from claim 1 and are therefore patentable for at least the same reasons. Claim 7 has been cancelled rendering its rejection moot. Applicant respectfully requests withdrawal of this rejection.

Conclusion

No new matter has been added. Applicant respectfully submits that Claims 1-6 and 10-25 as they now stand are patentably distinct over the art cited.

If additional fees are due and are not included, the Director is hereby authorized to charge any fees or credit any overpayment to Deposit Account Number 23-2426 of WINSTEAD PC (referencing matter 11321-P054WOUS).

If the Examiner has any questions or comments concerning this paper or the present application in general, the Examiner is invited to call the undersigned at 713-650-2632.

Respectfully submitted,

WINSTEAD PC

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